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SAFE-10-T End-User Workshop in Rotterdam

The SAFE-10-T End-User Workshop was organized on 29th October 2019 in continuation to the IALCCE workshop on Life Cycle Management 2019, with the aim of capitalising on the presence of a highly relevant expert audience. As part of the workshop, representatives of the SAFE-10-T project consortium presented the application of the global risk framework developed within the project to the multi-modal transport network in the vicinity of the Port of Rotterdam (road, rail and inland waterway) to determine the consequences of an infrastructure failure in terms of traffic flow disruption. This was demonstrated using a novel Decision Support Tool (DST) that has been developed in the project and can be used to optimise asset maintenance planning.

The workshop aimed to bring together researchers, transport infrastructure owners & operators, as well as other relevant stakeholders, with the twofold objective of presenting the preliminary project results and to gather feedback from an expert audience. The workshop, attended by over 30 participants, focused on the following project research activities and outputs: 1) DST, 2) bridge reliability analysis, 3) multi-modal traffic modelling and 4) whole life-cycle costing. Following the demonstration of the DST for the Port of Rotterdam, a panel discussion took place where the future of asset management and the use of decision-support tools was discussed.

Dr. Paul Doherty (Gavin & Doherty Geosolutions), Project Coordinator of SAFE-10-T, opened the SAFE-10-T end-user workshop, welcoming participants to the event.



Figure 1 - Welcome presentation given by Dr. Paul Doherty (GDG)



Figure 2 - SAFE-10-T workshop audience

Dr. Julie Clarke (Gavin & Doherty Geosolutions), SAFE-10-T Project Manager, subsequently provided an overview of the general objectives of the SAFE-10-T project in terms of innovative asset management approaches for transport infrastructure.

A general background to the novel Decision Support Tool (DST) developed in the project was presented by Dr. Nikola Tanasic (Infrastructure Management Consultants). This DST can be used to perform a quantitative risk assessment for multi-modal transport infrastructure networks to assist in decision-making with regard to asset maintenance planning.

Lorcan Connolly (Roughan & O'Donovan Innovative Solutions) gave a presentation on bridge reliability analysis, providing an overview of problems faced by infrastructure owners in dealing with aging bridges (i.e. growing traffic demand, fatigue cracking, etc.). Marieke van der Tuin (Transport & Planning Department, TU Delft) provided an overview of a new multi-modal traffic model that has been developed in the project to assess the potential impacts of a localised infrastructure asset failure on traffic flow across the wider TEN-T network. Dr. Irina Stipanović subsequently presented a whole life-cycle costing model and its application to the Port of Rotterdam demo project, which can be used to optimise asset maintenance planning.

Finally, Dr. Paul Doherty (Gavin & Doherty Geosolutions) led a discussion on the use of decision support tools in practice and future opportunities for innovative asset management along transport networks (Figure 3).

To facilitate an efficient method of feedback gathering from the workshop audience, an interactive application ([SLIDO](#)) was utilised. This application was used throughout the workshop as a two-way channel of communication between the workshop presenters and the workshop attendees. Following each workshop presentation, a number of questions were presented to the audience using the application, with the aim of gathering feedback and further insight in relation to each of the topics presented. The questions presented were either multiple choice or required the audience to rank their responses (e.g. 1 to 5). Several examples of the questions presented during the workshop are shown in Figure 4. The application was also used to gather questions and feedback from the audience, which were subsequently discussed during the panel discussion. The discussion focused on asset management for transport infrastructure networks, improvement of safety in transport infrastructure by harnessing Big Data and Machine Learning, as well as Decision Support Tools.



Figure 3: Panel Discussion

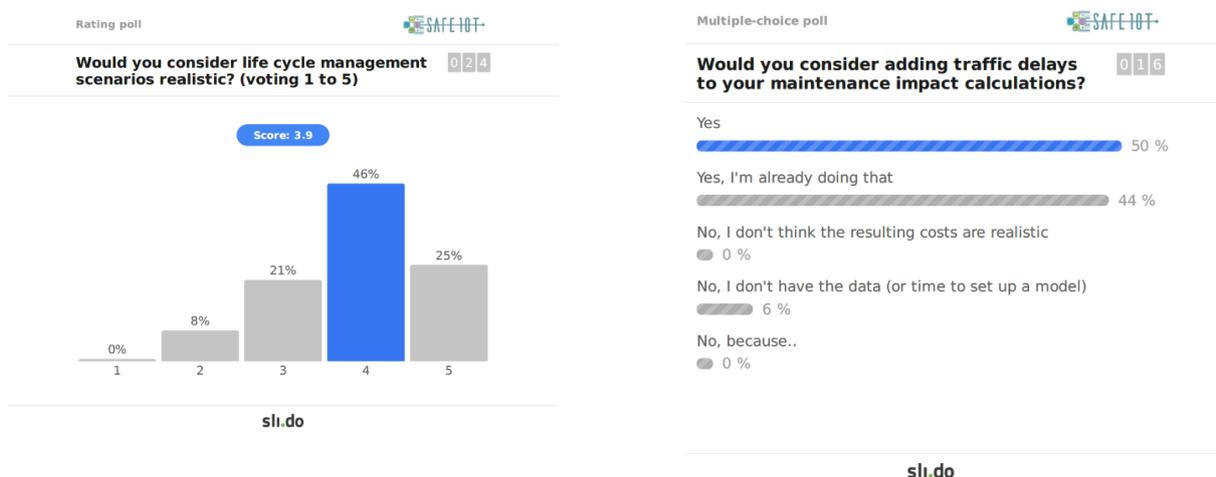


Figure 4: Questions presented to audience during Workshop using SLIDO

SAFE-10-T FINAL CONFERENCE

The **SAFE-10-T project** is now in its final stages and the project outputs will be presented at the final conference, which will be held on **Friday 17th April 2020** at the **BluePoint** venue in **Brussels**. This business & conference centre is located near the European quarter and is easily accessible via the main access roads. Public transport is within walking distance and Zaventem International Airport is only 15 minutes away.

Transport infrastructure owners are tasked with ongoing maintenance and investment decisions to effectively manage assets along their networks. A combination of ageing infrastructure, more extreme weather events and growing traffic demand has led to a significant increase in the occurrence of asset failures along transport networks. To support reliable decision-making in relation to the management of transport infrastructure, the SAFE-10-T project developed smart infrastructure solutions, including advanced methods of safety assessment for bridges, tunnels and earthworks. These novel methods of safety assessment were combined with a multi-modal European traffic model to determine the impact of potential infrastructure failures in terms of transport disruption and safety implications along the TEN-T network.

This event will be of interest to infrastructure owners and operators of road, rail and inland waterway networks, government transport planning authorities, researchers and transport policy makers. Attendees will learn about innovative approaches to asset management for transport infrastructure networks, and a novel Decision Support Tool for cost-effective management and maintenance of transport infrastructure. Furthermore, it will be an excellent networking opportunity to share ideas, knowledge and experience in relation to transport infrastructure asset management. The results of the project will be presented for three real demonstration projects as follows:

- Demo project 1 - Port of Rotterdam, the Netherlands
- Demo project 2 - Port of Rijeka, Croatia
- Demo project 3 - Severn River Crossing, United Kingdom

The event is a free of charge. Agenda and further details to be announced in early 2020.

Further project information and regular updates can be accessed at www.safe10tproject.eu or by joining the LinkedIn project group 'Safety of Transport Infrastructure on the TEN-T Network (SAFE-10-T)' at www.linkedin.com/groups/8623427/.

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For more information see www.safe10tproject.eu
or contact Project Coordinator Paul Doherty ¹ Gavin
and Doherty Geosolutions Ltd.
at pdoherty@gdgeo.com